

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) Interferometry apparatus comprising:
a measurement light beam and a reference light beam which interact with each other to cause a spatial fringe pattern;
an optical device which interacts with the spatial fringe pattern, such that light is spatially separated into different directions;
and wherein the intensity modulation in two or more directions of the spatially separated light is phase shifted.

2. (Original) Interferometry apparatus according to claim 1 wherein the optical device interacts with the spatial fringe pattern such that within a fringe of the spatial fringe pattern, light is spatially separated into different directions.

3. (Original) Interferometry apparatus according to claim 1 wherein the light is spatially separated over at least a portion of one or more fringes of the spatial fringe pattern.

4. (Currently Amended) Interferometry apparatus according to ~~any of claims 1 to 3~~ claim 1, wherein the light is spatially separated into two or more sub-beams.

5. (Currently Amended) Interferometry apparatus according to ~~any preceding claim~~ claim 1 wherein the spatially separated light in different directions is detected by optical detectors.

6. (Original) Interferometry apparatus according to claim 5 wherein the spatially separated light reaches the detectors via optical fibres.
7. (Currently Amended) Interferometry apparatus according to ~~any of claims 5 or 6~~ claim 5 wherein at least one focussing means is provided to focus the spatially separated light in the different directions into the optical fibres or onto the optical detectors.
8. (Currently Amended) Interferometry apparatus according to ~~any preceding claim~~ claim 1 wherein the optical device comprises at least one fresnel lens.
9. (Currently Amended) Interferometry apparatus according to ~~any preceding claim~~ claim 1 wherein the optical device is a diffractive device.
10. (Original) Interferometry apparatus according to claim 9 wherein the optical device comprises a plurality of segments, wherein light from the spatial fringe field incident on each segment is diffracted into a different diffraction direction, thereby spatially separating the spatial fringe field.
11. (Currently Amended) Interferometry apparatus according to ~~any of claims 9 or 10~~ claim 9 wherein the optical device has a plurality of segments having different structures, the different segments being arranged in a repeating pattern.

12. (Currently Amended) Interferometry apparatus according to ~~any of claims 10 or 11~~
claim 10 wherein two or more segments of the plurality of the segments comprise blaze
gratings, wherein the blaze gratings extend in different directions.

13. (Currently Amended) Interferometry apparatus according to ~~any of claims 10-12 claim~~
10 wherein one of the plurality of segments has no structure.

14. (Currently Amended) Interferometry apparatus according to ~~any of claims 1-7 claim 1~~
wherein the optical device is a diffractive optical element.

15. (Currently Amended) Interferometry apparatus according to ~~any of claims 1-8 claim 1~~
wherein the optical device is a refractive device.

16. (Original) Interferometry apparatus according to claim 15 wherein the optical device
comprises a plurality of segments, wherein light from the spatial fringe field incident on each
segment is refracted into a different direction, thereby spatially separating the spatial fringe
field.

17. (Currently Amended) Interferometry apparatus according to ~~any of claims 15 or 16~~
claim 15 wherein the optical device has a profiled surface, such that refraction at the profiled
surface causes spatial separation of the spatial fringe field.

18. (Currently Amended) Interferometry apparatus according to ~~any of claims 1-8 claim 1~~,
wherein the optical device comprises a coherent optical fibre bundle.

19. (Currently Amended) Interferometry apparatus according to ~~any preceding claim~~
claim 1 wherein the optical device is configured such that the phase difference of the spatially separated light beam enables outputs of the detectors to be combined to generate two signals with a known phase difference.

20. (Original) Interferometry apparatus according to claim 19 wherein the optical device is configured such that the phase difference of the spatially separated light beam enables outputs of the detectors to be combined to generate quadrature signals.